

IN THE CLAIMS

1. (Previously Presented) A method for generating a service plan that describes a plurality of services and associated workflow for a customer using a computer based system comprising the steps of:

creating the service plan, the service plan including a plurality of structured sentences for each of a plurality of specific needs of a particular customer in an electronic storage area, wherein the plurality of structured sentences together form a part of the service plan, said plurality of structured sentences including structured sentences for services, each structured sentence for service identifying a needed service corresponding to one of the specific customer needs; and

creating the electronic workflow in addition to the service plan, which is adapted to assist [completion of] in providing each needed service, the step of creating the electronic workflow including the step of using each structured sentence for service to create a workflow process instance for each needed service, wherein at least certain ones of the workflow process instances include a plurality of tasks corresponding to steps for providing one of the services to the particular customer, which one service relates to the corresponding structured sentence for service.

2. (Canceled)

3. (Previously Presented) A method according to claim 1 wherein said plurality of structured sentences have a subject and a plurality of attributes contained therein.

4. (Original) A method according to claim 3 wherein certain of the attributes associated with the structured sentences for services contain a selected attribute value chosen from among a group of possible attribute values.

5. (Currently Amended) A method according to claim 4 wherein the certain ones of said workflow process instances have at least one decision step, task firing condition or routing rule[s] that creates a plurality of possible sequences of tasks, one sequence of which becomes the plurality of tasks [that are] invoked as part of [the execution of] a further step of executing one of said workflow process instances.

6. (Currently Amended) A method according to claim 5 further including the step of modifying at least one of the structured sentence attributes, which modification also causes a change to the one sequence of tasks invoked within the [at least] one [of the] workflow process instance[s].

7. (Original) A method according to claim 5 wherein selecting a different one of the possible attributes from among the group of possible attributes will result in the selection of a different one of the plurality of possible routes with respect to an associated decision step, task firing condition or routing rule.

8. (Currently Amended) A method according to claim [3] 5 further including the step of electronically inputting answers to questions, and wherein the electronically input answers to questions also causes a change to the one sequence [of tasks] invoked within the [at least] one [of the] workflow process instance[s].

9. (Original) A method according to claim 8 wherein the step of electronically inputting answers to questions is performed by the customer.

10. (Original) A method according to claim 9 wherein the step of electronically inputting answers includes the steps of the customer remotely answering questions and transmitting the questions for inputting via the Internet.

11. (Previously Presented) A method according to claim 12 wherein certain ones of said workflow process instances have at least one decision step, task firing condition or routing rule that creates a plurality of possible routes contained therein, and further including the step of creating a part of workflow relevant data, which modification also causes a change to the sequence of tasks invoked within at least one of the workflow process instances.

12. (Previously Presented) A method according to claim 1 wherein certain ones of said plurality of workflow process instances have workflow relevant data contained therein.

13. (Original) A method according to claim 12 further including the step of electronically inputting answers to questions, and wherein the electronically input answers to questions are used to create or modify workflow relevant data for certain ones of the workflow process instances.

14. (Previously Presented) A method according to claim 5 wherein the step of executing the workflow process instance further includes the step of invoking and executing pre-existing query data items, thereby causing workflow relevant data to be created or modified, said query data items containing metadata that maps response options in a question or structured sentence data item to other response options in at least one other question or structured sentence data item, thereby creating a single data value used in a decision step, task firing condition or routing rule as part of the execution of said workflow process instance.

15. (Previously Presented) A method according to claim 1, wherein the service plan is a care plan, the customer is a patient, and the plurality of specific customer needs are health related problems to be addressed as part of the patient's care.

16. (Previously Presented) A method according to claim 15, wherein the step of creating the plurality of structured sentences is created by an interdisciplinary team of clinicians.

17. (Original) A method according to claim 1 wherein the step of creating the electronic workflow includes creating an alert that will signify that an action needs to be taken.

18. (Original) A method according to claim 1 further including the steps of automatically generating a translation of the service plan and transmitting the translation of the service plan to the customer.

19. (Original) A method according to claim 18 further including the step of revising the automatically generated translation prior to the step of transmitting.

20. (Original) A method according to claim 18 wherein the step of transmitting transmits the translation to a remote computer associated with the customer.

21. (Original) A method according to claim 1 further including the step of creating other structured sentences, said other structured sentences including structured sentences for a goal, a fact, a protocol, and a finding.
22. (Original) A method according to claim 1 further including the step of initiating the workflow.
23. (Previously Presented) A method according to claim 22 further including updating status information for the service plan as workflow progresses.
24. (Previously Presented) A method according to claim 23 wherein updates are provided to a user of the service plan in one form and updates are provided to the customer in another form.
25. (Original) A method according to claim 24 wherein the one form is directed to a clinician and the other form is directed to a nonmedical person.
26. (Currently Amended) A method according to claim 1, wherein:
the steps of creating are repeated to result in a plurality of existing service plans corresponding to a respective plurality of customers, each of said existing service plans including a plurality of structured sentences for each of a plurality of specific needs of a particular customer, each of said plurality of existing service plans stored in an electronic storage area, said plurality of structured sentences in each of said existing service plans including structured sentences for services, each structured sentence for service in each of said existing service plans identifying a needed service corresponding to one of the specific needs of a particular customer, and each of said existing service plans having associated therewith an existing electronic work flow that is in addition to said existing service plan and is capable of assisting completion of each needed service;
identifying one or more needed services in addition to those services specified in the existing service plans;
identifying certain of the plurality of customers in need of the one or more identified services;

automatically adding new structured sentences for service that are common to certain of the plurality of existing service plans for the selected certain plurality of customers to obtain a certain corresponding plurality of revised service plans;

automatically adding workflow process instances corresponding to the new structured sentences for service to the existing electronic workflow for each of the selected certain plurality of customers to obtain a revised electronic workflow for each of the selected certain plurality of customers; and

causing initiation of the revised workflow for each revised service plan.

27. (Previously Presented) A method according to claim 26 wherein said plurality of new structured sentences have a subject and a plurality of attributes contained therein and wherein the step of adding new structured sentences includes the step of determining values for certain of said plurality of attributes for said new structured sentences based upon a characteristic that is common to each of said certain plurality of customers.

28. (Currently Amended) A method according to claim 27 wherein the step of automatically adding new structured sentences includes the step of determining values for other ones of said plurality of attributes for said new structured sentences based upon another characteristic that is not common for each of said certain plurality of customers.

29. (Currently Amended) A method according to claim 26 wherein the step of automatically adding new structured sentences further includes the step of modifying certain existing structured sentences that are common to the predetermined plurality of existing service plans based upon the data; and wherein

the step of automatically adding workflow instances includes the step of revising workflow instances associated with the modified certain existing structured sentences.

30. (Previously Presented) A method for creating a service plan and associated workflow for a particular customer using a computer based system comprising the steps of:

providing electronically:

a plurality of structured sentence data items for each of a plurality of possible customer needs in an electronic storage area, said plurality of structured sentence data items including structured

sentence data items for services, each structured sentence data item for service identifying a needed service corresponding to one of the possible customer needs;

a generic electronic workflow process specification, in addition to the plurality of structured sentence data items, that is adapted to assist completion of each needed service; and

at least first and second templates, each of said at least first and second templates comprising a different set of certain ones of said plurality of structured sentence data items, different ones of said plurality of structured sentence data items relating to different possible customer needs and each including a subject and at least one attribute;

selecting at least a first template that relates to an identified customer need;

creating the service plan for the particular customer, the step of creating the service plan including the step of selecting structured sentence data items within the first template that relate to a specific need of the particular customer to obtain the service plan for the particular customer with structured sentences therein corresponding to the selected structured sentence data items, the structured sentences in the service plan being in addition to the selected structured sentence data items, and wherein the step of selecting structured sentence data items also causing the selection of workflow instances includes the step of determining a value for the at least one attribute for each of the selected structured sentences in the service plan for the particular customer; and

creating the workflow in addition to the service plan using the generic workflow specification and the service plan, the workflow being adapted to assist completion of each needed service, wherein the step of creating the workflow includes the step of using each structured sentence for service to create a workflow process instance for each needed service.

31. (Canceled)

32. (Previously Presented) A method according to claim 30 wherein the attribute values for certain ones of said plurality of attributes is selectable from a collection of mutually exclusive choices.

33. (Previously Presented) A method according to claim 30 wherein the attribute for certain ones of said plurality of attributes is a date.

34. (Previously Presented) A method according to claim 30 wherein the attribute for certain ones of said plurality of attributes is a dosage.

35. (Previously Amended) A method according to claim 30, wherein the service plan is a care plan, the customer is a patient, the plurality of possible customer needs are health related problems, and the specific need of the particular customer is a health related problem of the particular customer.

36. (Original) A method according to claim 30 further including the step of initiating the workflow, the step of initiating the workflow being caused by a user verifying the accuracy of the service plan.

37. (Original) A method according to claim 30 wherein during the step of providing a plurality of structured sentence data items is accomplished by a generic metadata supplier that transmits the data to a service provider user, and the service provider user performs the steps of selecting.

38. (Previously Presented) A method according to claim 37 further including the step of the service provider adding structured sentence data items to the plurality of structured sentence data items previously provided by the generic metadata supplier.

39. (Previously Presented) A method according to claim 37 further including the step of the service provider modifying certain ones of the selected structured sentences data items from the structured sentence data items previously provided by a generic metadata supplier.

40. (Currently Amended) A method according to claim 1, further including the step of [automatically] updating metadata, said metadata including structured sentence data items that are usable for the creation of service plans for particular customers and generic workflow process specifications[,] that are adapted for the creation [and execution of a service plans for nonparticular] of work flow process instances used to assist in providing a service to particular customers, said plurality of structured sentence data items including structured sentence data items for services, each structured sentence data item for service identifying a possible needed service corresponding to a possible customer need, and each said associated workflow process specification including

workflow data describing a plurality of tasks, routes, decision steps, task firing conditions and routing rules that are capable of assisting completion of one of the needed services and including an alert [alerts that occur] to signify that an action needs to be taken with respect to [some] the one of the needed services, the step of [automatically] updating metadata including the steps of:

[identifying] displaying alert messages according to logic within workflow process specifications;

dismissing identified alert messages in response to a user input, the step of dismissing identified alert messages including the steps of dismissing the message as one of appropriate and inappropriate, and capturing data relating to the identified alert messages and which alert messages were subsequently dismissed as appropriate or inappropriate;

[grouping] automatically aggregating the data to identify workflow process specifications with alert logic that causes dismissal of alert messages as inappropriate a determined proportion of the time; and

determining revised generic workflow process specifications and revised structured sentences data items based upon the identification obtained from the step of [grouping] automatically aggregating.

41. (Currently Amended) An apparatus for generating a service plan and associated electronic workflow for a customer comprising:

means for creating, in an electronic storage area, the service plan for the customer, the service plan including a plurality of structured sentences for each of a plurality of specific customer needs of customers, said plurality of structured sentences including structured sentences for services, each structured sentence for service identifying a needed service corresponding to one of the specific customer needs; and

means for creating the electronic workflow, the electronic workflow being in addition to the service plan, and capable of assisting completion of each needed service, the means for creating including means for using each structured sentence for service to create a workflow process instance for each needed service, wherein at least certain ones of the workflow process instances include a plurality of tasks corresponding to steps for providing one of the services to the particular customer, which one service relates to the corresponding structured sentence for service.

42. (Canceled)

43. (Previously Presented) An apparatus according to claim 41 wherein said plurality of structured sentences have a subject and a plurality of attributes contained therein.

44. (Original) An apparatus according to claim 43 wherein certain of the attributes associated with the structured sentences for services contain a selected attribute value chosen from among a group of possible attribute values.

45. (Original) An apparatus according to claim 44 wherein certain ones of said workflow process instances have at least one decision step, task firing condition or routing rule that create a plurality of possible sequences of tasks that are invoked as part of the execution of said workflow process instances.

46. (Original) An apparatus according to claim 45 further including means for modifying at least one of the structured sentence attributes, which modification also causes a change to the sequence of tasks invoked within at least one of the workflow process instances.

47. (Original) An apparatus according to claim 45 wherein selecting a different one of the possible attributes from among the group of possible attributes will result in the selection of a different one of the plurality of possible routes with respect to an associated decision step, task firing condition or routing rule.

48. (Original) An apparatus according to claim 43 further including means for electronically inputting answers to questions, and wherein the electronically input answers to questions also causes a change to the sequence of tasks invoked within at least one of the workflow process instances.

49. (Original) An apparatus according to claim 48 wherein the means for electronically inputting answers to questions is operated by the customer.

50. (Original) An apparatus according to claim 49 wherein the means for electronically inputting answers includes means for the customer to remotely answer questions and means for transmitting the questions for inputting via the Internet.

51. (Previously Presented) An apparatus according to claim 52 wherein certain ones of said workflow process instances have at least one decision step, task firing condition or routing rule that creates a plurality of possible routes contained therein, and further including the step of modifying a part of the workflow relevant data which modification also causes a change to the sequence of tasks invoked within at least one of the workflow process instances.

52. (Previously Presented) An apparatus according to claim 41 wherein certain ones of said plurality of workflow process instances have workflow relevant data contained therein.

53. (Original) An apparatus according to claim 52 further including means for electronically inputting answers to questions, and wherein the electronically input answers to questions are used to create or modify workflow relevant data for certain ones of the workflow process instances.

54. (Previously Presented) An apparatus according to claim 45 further including means for invoking and executing pre-existing query data items, thereby causing workflow relevant data to be created or modified, said query data items containing metadata that maps response options in a question or structured sentence data item to other response options in at least one other question or structured sentence data item, thereby creating a single data value used in a decision step, task firing condition or routing rule as part of executing said workflow process instance .

55. (Previously Presented) An apparatus according to claim 41, wherein the service plan is a care plan, the customer is a patient, and the plurality of specific needs of the particular customer are health related problems of the particular customer.

56. (Currently Amended) An apparatus according to claim 55, wherein the means for creating [a] the service plan includes means for transmitting a draft of the plurality of structured sentences [includes means for creating structured sentences that are transmitting drafts of the plurality of

structured sentences] among an interdisciplinary team of clinicians, said means for transmitting
implementing a workflow automation process.

57. (Original) An apparatus according to claim 41 wherein the means for creating the electronic workflow includes means for creating an alert that will signify that an action needs to be taken.

58. (Original) An apparatus according to claim 41 further including means for automatically generating a translation of the service plan and means for transmitting the translation of the service plan to the customer.

59. (Original) An apparatus according to claim 58 further including means for revising the automatically generated translation.

60. (Original) An apparatus according to claim 58 wherein the means for transmitting transmits the translation to a remote computer associated with the customer.

61. (Original) An apparatus according to claim 41 further including means for creating other structured sentences, said other structured sentences including structured sentences for a goal, a fact, a protocol, and a finding.

62. (Previously Presented) An apparatus according to claim 41 further including means for initiating the associated electronic workflow.

63. (Previously Presented) An apparatus according to claim 62 further including means for updating status information for the service plan as the electronic workflow progresses.

64. (Previously Presented) A method according to claim 63 wherein updates are provided to a user of the service plan in one form and updates are provided to the customer in another form.

65. (Original) An apparatus according to claim 64 wherein the one form is directed to a clinician and the other form is directed to a nonmedical person.

66. (Previously Presented) A method according to claim 23 wherein the step of updating the status information for the service plan includes modifying an attribute contained in one of the structured sentences.

67. (Previously Presented) A method according to claim 23 wherein the step of updating the status information for the service plan includes adding another structured sentence relating to services.

68. (Previously Presented) A method according to claim 30 wherein the plurality of structured sentences data items in at least one of said first and second templates include a group of structured sentences data items that are associated with a customer need.

69. (Previously Presented) The method according to claim 16 where the service plan, including the plurality of structured sentences, is created by the interdisciplinary team of clinicians using a workflow automation process to route a draft of the service plan, including the plurality of structured sentences therein, to the interdisciplinary team.

70. (Previously Presented) The apparatus according to claim 56 where the service plan, including the plurality of structured sentences, is created by the interdisciplinary team of clinicians using a workflow automation process to route a draft of the service plan, including the plurality of structured sentences therein, to the interdisciplinary team.

71. (Previously Presented) The method according to claim 30, wherein the step of selecting the structured sentence data items includes the steps of:

visually displaying certain ones of the structured sentence data items on a screen of a display; and

creating one structured sentence corresponding to the specific need of the particular customer by selecting one of the displayed certain ones of the structured sentence data items.

72. (Previously Presented) The method according to claim 71 wherein the certain ones of the structured sentence data items displayed on the screen resemble a substantially grammatically correct phrase.

73. (Previously Presented) The method according to claim 71 wherein:
the step of visually displaying includes the step of visually displaying attributes of one of the certain ones of the structured sentence data items; and
the step of creating the one structured sentence corresponding to the specific need of the particular customer includes selecting a selected value obtained from one of the attributes.

74. (Previously Presented) The method according to claim 73 wherein the step of creating further includes creating one workflow process instance that corresponds to the one structured sentence.

75. (Previously Presented) The method according to claim 71 further including the step of displaying the one structured sentence on the screen of the display after the step of creating the one structured sentence corresponding to the specific need of the particular customer.

76. (Previously Presented) The method according to claim 75 wherein the one structured sentence displayed on the screen resembles a substantially grammatically correct phrase.

77. (Previously Presented) The method according to claim 76 wherein the one structured sentence displayed on the screen contains information obtained from a subject of the selected one of the displayed certain ones of the structured sentence data items and a selected value corresponding to an attribute associated with the selected one of the displayed certain ones of the structured sentence data items.

78. (Previously Presented) The method according to claim 30 wherein the step of obtaining the service plan with structured sentences therein includes the steps of:
creating a structured sentence in the service plan for each structured sentence data item that was selected from the template, wherein the step of creating the structured sentence includes the steps of:
creating a structured sentence subject based on the subject in the corresponding structured sentence data item,
creating a plurality of structured sentence attributes based on the plurality of attributes in the corresponding structured sentence data item, and

setting structured sentence attribute values based on default attribute values specified in the corresponding attribute of the corresponding structured sentence data item.

79. (Previously Presented) The method according to claim 78 further comprising the step of: changing the structured sentence attribute value for at least one attribute for at least one structured sentence in the service plan from the default attribute value to a selected attribute value, wherein the step of changing the structured sentence attribute value includes the step of displaying a list of possible attribute values specified for the corresponding attribute of the structured sentence data item; and

selecting one of the possible attribute values from the displayed list as the selected attribute value.

80. (Previously Presented) The method according to claim 78 wherein the step of using each structured sentence for service to create the workflow process instance include the steps of:

matching the structured sentence to a corresponding workflow process specification; creating a new workflow process instance; setting values of workflow relevant data associated with the workflow process instance based on the structured sentence attributes and structured sentence attribute values in the structured sentence for service; and

configuring the workflow process instance so that, once the workflow process instance is initiated, the system will execute the workflow process instance using information regarding tasks, routes, decision steps, tasks firing conditions and routing rules that are defined in the corresponding workflow process specification.

81. (Previously Presented) The apparatus according to claim 41 wherein the means for creating the service plan with structured sentences therein includes:

means for creating a structured sentence in the service plan for each structured sentence data item that was selected from the template, wherein the means for creating the structured sentence includes:

means for creating a structured sentence subject based on the subject in the corresponding structured sentence data item,

means for creating a plurality of structured sentence attributes based on the plurality of attributes in the corresponding structured sentence data item, and

means for setting structured sentence attribute values based on default attribute values specified in the corresponding attribute of the corresponding structured sentence data item.

82. (Amended) The apparatus according to claim [78] 81 further comprising:

means for changing the structured sentence attribute value for at least one attribute for at least one structured sentence in the service plan from the default attribute value to a selected attribute value, wherein the means for changing the structured sentence attribute value means for displaying a list of possible attribute values specified for the corresponding attribute of the structured sentence data item; and

means for selecting one of the possible attribute values from the displayed list as the selected attribute value.

83. (Cancelled)

84. (New) The method according to claim 30 wherein at least certain ones of the workflow process instances including a plurality of tasks corresponding to steps for providing one service to the particular customer, which one service relates to the corresponding structured sentence for service.

85. (New) The method according to claim 84 further including the step of executing the workflow, the step of executing the workflow including tracking a status of each workflow process instance through the plurality of tasks as required to assist in execution and follow-up of the one service.

86. (New) The method according to claim 30 wherein the subject and the attribute in some of the structured sentence data items are displayed together in essentially grammatically correct form, and the corresponding structured sentence contains both the subject and the attribute also displayed together in essentially grammatically correct form.

87. (New) The method according to claim 30 wherein each of the structured sentence data items and each of the structured sentences are displayed in essentially grammatically correct form.

88. (New) The method according to claim 30 wherein the plurality of structured sentences, including structured sentences for service, in service plan, are displayed together to the user with the appearance of a textual document.

89. (New) The method according to claim 88 further including the step of creating other structured sentences, said other structured sentences including structured sentences for a goal, a fact, a protocol, and a finding.

90. (New) The method according to claim 30 wherein the plurality of structured sentences, including structured sentences for service, in service plan, are not displayed in the form of a workflow process flow diagram.

91. (New) The method according to claim 30 wherein the step of creating the workflow includes the steps of:

activating the service plan; and
using the activated service plan to create the workflow from the generic workflow specification.

92. (New) The method according to claim 91 further including the steps of:

initiating the workflow; and
executing the workflow.

93. (New) The method according to claim 30 wherein a separate electronic record is maintained for each of the templates, the generic workflow specification, the service plan for each of a plurality of customers, and the workflow for each of the plurality of customers.

94. (New) The method according to claim 40 wherein the step of automatically aggregating is performed for the data associated with a plurality of customers.